

Translation

PATENT COOPERATION TREATY

PCT/EP2003/010221



PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 03SGL0257WOP	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP2003/010221	International filing date (<i>day/month/year</i>) 13 September 2003 (13.09.2003)	Priority date (<i>day/month/year</i>) 14 September 2002 (14.09.2002)
International Patent Classification (IPC) or national classification and IPC C03C 17/34		
Applicant SCHOTT AG		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet. <input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT). These annexes consist of a total of _____ sheets.
3. This report contains indications relating to the following items: I <input checked="" type="checkbox"/> Basis of the report II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input type="checkbox"/> Certain observations on the international application

Date of submission of the demand 25 February 2004 (25.02.2004)	Date of completion of this report 22 December 2004 (22.12.2004)
Name and mailing address of the IPEA/EP Facsimile No.	Authorized officer Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP2003/010221

I. Basis of the report

1. With regard to the elements of the international application:*

- ☐ the international application as originally filed
- ☒ the description:
 pages 1-24, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☒ the claims:
 pages 1-49, as originally filed
 pages _____, as amended (together with any statement under Article 19
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☒ the drawings:
 pages 1/1, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
 pages _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

- These elements were available or furnished to this Authority in the following language _____ which is:
- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/EP 03/10221

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	12, 13, 16, 17, 23, 24, 35-41, 46, 48	YES
	Claims	1-11, 14, 15, 18-22, 25-34, 42-45, 47	NO
Inventive step (IS)	Claims		YES
	Claims	1-49	NO
Industrial applicability (IA)	Claims	1-49	YES
	Claims		NO

2. Citations and explanations

Reference is made to the following documents:

- D1: US-A-5 944 964 (POND BRADLEY JAMES ET AL)
D2: EP-A-0 548 972 (ASAHI GLASS CO LTD)
D3: KLINGER R E: "EVOLUTION OF SURFACE ROUGHNESS AND SCATTER IN EVAPORATED ZIRCONIA/SILICA MULTILAYER COATINGS" PROCEEDINGS OF THE SPIE, SPIE, BELLINGHAM, VA, US, vol. 678, 1986, pages 41-50, ISSN: 0277-786X
D4: SELHOFER H ET AL: "Comparison of pure and mixed coating materials for AR coatings for use by reactive evaporation on glass and plastic lenses" THIN SOLID FILMS, ELSEVIER-SEQUOIA S.A. LAUSANNE, CH, vol. 351, nos. 1-2, 30 August 1999 (1999-08-30), pages 180-183, ISSN: 0040-6090

1 Novelty

D1 (see column 9, line 44 to column 10, line 26) discloses a glass substrate with at least one functional layer (of various thicknesses) which is interrupted by at least one intermediate layer of 1-2 nm in order to influence morphology.

D1 (column 8, line 43 to column 9, line 43) further

discloses influencing the morphology of the functional layer during the coating process.

D2 (claims 1-8) also discloses a glass substrate with at least one functional layer (40-100 nm) which is interrupted by at least one intermediate layer of 2-10 nm.

The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claims 1-11, 14, 15, 18-22, 25-34, 42-45 and 47 is not novel within the meaning of PCT Article 33(2).

2 Inventive step

In light of the present state of knowledge, there are serious reservations with respect to the inventive step of the dependent claims, even if they are novel.

D3 (page 43, paragraph 3) describes the use of a SiO_2 intermediate layer to give a ZrO_2 layer morphology in which dense columns grow perpendicularly to the substrate surface. The coated objects described in D3 are characterized by smoother surfaces.

D3 describes the same advantages with respect to the feature of layer morphology as does the present application.

D4 suggests the substitution of titanium-aluminium oxide for titanium oxide as a high refractive index layer.

The pre- and post-treatment steps described are only some of the many obvious possibilities from which a person skilled in the art would choose according to the circumstances, without thereby being inventive

Protective layers on glass-ceramic cooking surfaces are also not considered to involve an inventive step. Further, it is noted that optical coatings, in particular zirconium oxide (see D1, column 1, line 64 to column 2, line 14), also have a certain hardness.

In light of the present state of knowledge, it is unclear what problem is solved by the dependent claims in a manner non-obvious to a person skilled in the art.

The present application therefore does not meet the requirements of PCT Article 33(1) because the subject matter of claims 1-49 does not involve an inventive step within the meaning of PCT Article 33(3).